

system 100, and are not memories which store firmware for different disk devices. That is, firmware banks 502, 504 are configured as a default and back-up system so that if one fails, the other can be activated; but both are used for the same device.

In contrast, claim 1 recites in pertinent part, "a computer composed of a *plurality* of disk devices *each having a first memory storing firmware*" (emphasis added). One exemplary embodiment of the present invention is shown in Figure 1, where each of the exemplary disk devices 22-26 has a corresponding memory 32-36 for storing its firmware. In this regard, it is respectfully submitted that the disclosure of Bealkowski et al. is unrelated to the present invention. In particular, Bealkowski et al. is directed to ensuring reliability of firmware (by having a back-up system) for governing an entire computer system, whereas the present invention can allow one to individually update firmware of any one or more of a plurality of devices which make up the system.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed in a single prior art reference, Akzo N.V. v. U.S. Int'l Trade Commission, 808 F.2d 1471 (Fed. Cir. 1986), and because Bealkowski et al. does not disclose or suggest, at a minimum, "a computer composed of a plurality of disk devices each having a first memory storing firmware", it is submitted that Bealkowski et al. does not anticipate claim 1, nor any claim dependent thereon.

Based on the foregoing, it is respectfully submitted that claim 1 is patentable over Bealkowski et al.. Accordingly, it is respectfully requested that the rejection of claim 1 under 35 U.S.C. § 102, be withdrawn.

II. CLAIM 2

The Examiner asserts that "the new firmware is part of the update program." It is respectfully submitted that this assertion evidences that Bealkowski et al. does not anticipate claim 2, which recites in pertinent part, "a storing step of storing firmware of one of *said disk devices* into a *second memory* ... and; an updating step of transmitting the firmware stored in *said second memory* to a disk device to be updated ..." (emphasis added). In contrast, as admitted by the Examiner, Bealkowski et al. updates the firmware of the banks 502, 504 using an external source program. Accordingly, Bealkowski et al. does not update the firmware of one disk device using the firmware of another disk device of system 100. In fact, as mentioned above with respect to claim 1, Bealkowski et al. does not disclose plural disk devices each having a firmware memory bank.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed in a single prior art reference, Akzo N.V. v. U.S. Int'l Trade Commission, 808 F.2d 1471 (Fed. Cir. 1986), and because Bealkowski et al. does not disclose or suggest, at a minimum, "a storing step of storing firmware of one of said disk devices into a second memory ... and; an updating step of transmitting the firmware stored in said second memory to a disk device to be updated", it is submitted that Bealkowski et al. does not anticipate claim 2, nor any claim dependent thereon.

Based on the foregoing, it is respectfully submitted that claims 2-7 are patentable over Bealkowski et al.. Accordingly, it is respectfully requested that the rejection of claims 2-7 under 35 U.S.C. § 102, be withdrawn.

NEW DEPENDENT CLAIMS

New claims 8-13, as are claims 3-7, are submitted to be allowable based on their own merits by adding novel and non-obvious features to the combination.

CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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APPENDIX

IN THE SPECIFICATION

The paragraph beginning on page 4, second to last line, and ending on page 5, line 3, has been amended as follows:

--In this embodiment, on the basis of the comparison result of the specific information of the firmware, the firmware of the latest version is stored in the RAM 3. On the other, when an operator recognizes the disk device having the firmware of the latest version, the firmware can be stored in the RAM 3 by input of the [derive] device name of the disk device in the operation panel 19.--

The paragraph beginning on page 6, line 11 has been amended as follows:

--Step 104 is to judge presence or absence of the disk device to be updated of the firmware as a result of step 103. The version of the disk device 23, 24 of which type is DV is different from the version of the disk device 22, and it is judged necessary to update the firmware of the disk device 23, 24 with the firmware of the disk device 22.--

The paragraph beginning on page 7, last line, and ending on page 8, line 3, has been amended as follows:

--At step 104, it is judged whether the disk device having the firmware to be updated is present or not as the result of step 203. Of the same type DV, since the version of the disk device 24 is different from the version of the disk device 23, it is judged necessary to update the firmware of the disk device 24 with the firmware of the disk device 23.--

IN THE CLAIMS

1. (Amended) A disk system, comprising:

a computer composed of a plurality of disk devices each having a first memory storing firmware, and
an update program for updating specific information and firmware data of the firmware of said disk devices.

2. (Twice Amended) A firmware updating method applied in a disk system comprising a computer composed of a plurality of disk devices each having a first memory storing firmware, and an update program for updating specific information and firmware data of the firmware of said disk devices, comprising:

a starting step of starting said update program;
a storing step of storing firmware of one of said disk devices into a second memory coupled to said computer, and;
an updating step of transmitting the firmware stored in said second memory to a disk device to be updated out of said disk devices, and updating to the firmware stored in said second memory.